

**CC3300 Series
1/3-Inch Color Camera**

**Installation/
Operation Manual**

C1900M (4/99)

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 IMPORTANT SAFEGUARDS	3
1.1 FCC INFORMATION	4
1.2 SAFETY PRECAUTIONS	4
1.3 UNPACKING	4
2.0 DESCRIPTION	5
2.1 LOCATION AND FUNCTION OF PARTS	6
2.1.1 TOP/FRONT/SIDE (ILLUSTRATION A)	6
2.1.2 REAR (ILLUSTRATION B)	7
3.0 POWER SUPPLY CONSIDERATIONS	8
4.0 LENSES	10
4.1 LENS LIMITS	10
4.2 LENS COMPATIBILITY (ILLUSTRATION C)	10
4.3 LENS INSTALLATION	11
4.3.1 AUTO IRIS	11
4.3.2 REPLACING THE AUTO IRIS LENS CABLE PLUG (REFER TO ILLUSTRATION D) ..	11
4.3.3 MANUAL IRIS	11
5.0 CAMERA INSTALLATION	15
5.1 CONNECTING THE CC3300-2/CC3300-2X (ILLUSTRATION F)	15
5.2 CONNECTING THE CC3300-3 (ILLUSTRATION G)	17
5.3 VERTICAL PHASE (SEE FIGURE 6)	17
6.0 OPERATION 17	
7.0 MAINTENANCE	18
8.0 SPECIFICATIONS	18
9.0 WARRANTY AND RETURN INFORMATION	20

LIST OF FIGURES AND ILLUSTRATIONS

<u>Figure</u>	<u>Page</u>
1 The CC3300 Series Camera	5
2 Rear Panel: CC3300-2/CC3300-2X	8
3 Typical 120 VAC to 24 VAC (60 Hz) Power Supply (CC3300-2 Only)	9
4 Rear Panel: CC3300-3	9
5 Standard Acceptable Lens Dimensions	10
6 Vertical Phase	17

<u>Illustration</u>	<u>Page</u>
A Top/Front/Side View of CC3300 Series Camera	6
B Rear View of CC3300 Series Cameras	7
C Compatible Lenses	10
D Changing the Plug on an Auto-Iris Lens Cable	11
E Fitting the Lens	15
F Connecting the CC3300-2/CC3300-2X	16
G Connecting the CC3300-3	16

1.0 IMPORTANT SAFEGUARDS

1. Read Instructions - All the safety and operating instructions should be read before the unit is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions - All operating and use instructions should be followed.
5. Cleaning - Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. Water and Moisture - Do not use this unit near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, in an unprotected outdoor installation, or any area which is classified as a wet location.
8. Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer, or sold with the product. Any mounting of the unit should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



9. Ventilation - Openings in the enclosure, if any, are provided for ventilation and to ensure reliable operation of the unit and to protect it from overheating. These openings must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. Power Sources - This unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.
11. Grounding or Polarization - This unit may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

Alternately, this unit may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. Power-Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
13. Power Lines - An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.
14. Overloading - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.
15. Object and Liquid Entry - Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
16. Servicing - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. Damage Requiring Service - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled, or objects have fallen into the unit.
 - c. If the unit has been exposed to rain or water.
 - d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
 - e. If the unit has been dropped or the cabinet has been damaged.
 - f. When the unit exhibits a distinct change in performance - this indicates a need for service.
18. Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
19. Safety Check - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
20. Coax Grounding - If an outside cable system is connected to the unit, be sure the cable system is grounded. U.S.A. models only-Section 810 of the National Electrical Code, ANSI/NFPA No.70-1981, provides information with respect to proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
21. Lightning - For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power-line surges.

1.1 FCC INFORMATION

For USA customers

WARNING - This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced audio/TV technician for help.

Intentional or unintentional changes or modifications not expressly approved by the party responsible for compliance shall not be made. Any such changes or modifications could void the user's authority to operate the equipment.

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

For United Kingdom customers

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT

The wires in the main power lead are colored in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colors of the wires in the power lead of this apparatus may not correspond with the colored markings identifying the terminals in your plug proceed as follows:

The wire which is colored green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol (⊕) or colored green or green-and-yellow.

The wire which is colored blue must be connected to the terminal which is marked with the letter N or colored black.

The wire which is colored brown must be connected to the terminal which is marked with the letter L or colored red.

1.2 SAFETY PRECAUTIONS



This label may appear on the bottom of the unit due to space limitations.



The lightning flash with an arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To prevent fire or shock hazard, do not expose units not specifically designed for outdoor use to rain or moisture.



WARNING: Electrostatic-sensitive device. Use proper CMOS/MOSFET handling precautions to avoid electrostatic discharge.

NOTE: Grounded wrist straps must be worn and proper ESD safety precautions observed when handling the electrostatic-sensitive printed circuit boards.

1.3 UNPACKING

The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

Supplied
Accessories: 4-pin plug for auto iris lens (1); Operating Instructions (1)

2.0 DESCRIPTION

The CC3300 Series cameras are compact, rugged, full performance, general purpose color CCD cameras (see Figure 1). Contemporary styling and controls allow these cameras to blend naturally into the most modern installation sites. These cameras are 1/3-inch image format and are available in the following models:

NOTE: The alphanumeric reference designations (of the form **A**) used in this manual are keyed to the reference designations used in the instruction sheets shipped with the product received by the customer.

Model #	Voltage	Nominal Power	Color Signal Standard
CC3300-2	24 VAC	3.5 W	NTSC (60 Hz) 330 TVlines
CC3300-2X	24 VAC	3.5 W	PAL (50 Hz) 330 TV lines
CC3300-3	220-240 VAC	4.0 W	PAL (50 Hz) 330 TV lines

NOTE: Unless otherwise noted, the operating instructions within this manual are applicable to all camera models, even though their signal systems and power requirements are different.

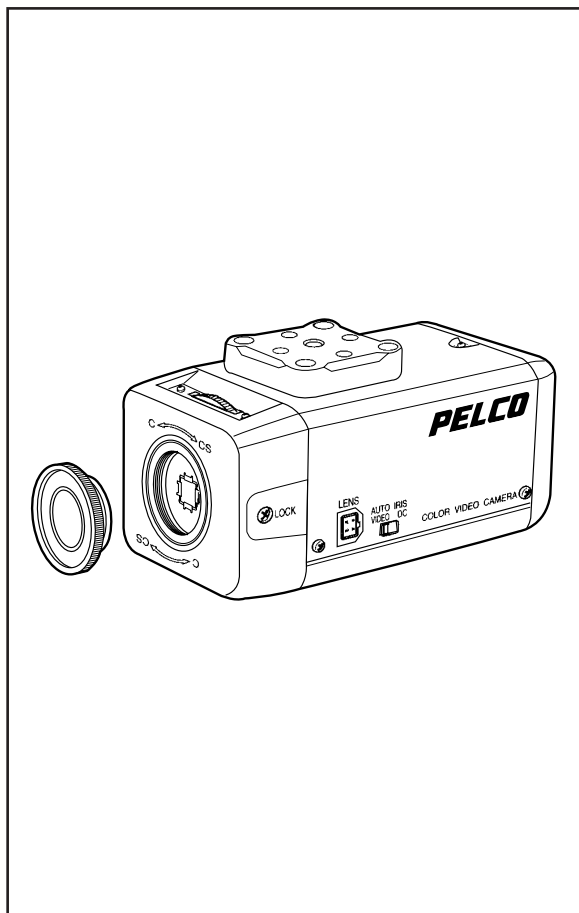


Figure 1. The CC3300 Series Camera

All camera models have the following features:

- High sensitivity (minimum illumination: 1.0 lux, f/1.2)
- Backlight compensation
- Turbo AGC
- CCD IRIS function
- Compact and lightweight
- Line lock function for synchronizing through AC power source
- C/CS mount capability
- DC/VS servo auto-iris lens capability
- Automatic tracking white balance

2.1 LOCATION AND FUNCTION OF PARTS

2.1.1 Top/Front/Side (Illustration A)

- ① C/CS adjustment ring (focal length adjustment ring and locking screw)

Use this ring to adjust the back focus, or focal length (the distance between the lens mounting plane and the image plane) – adjusts the back focus to suit the type of lens fitted. Be sure to use the LOCK screw ⑤ to lock the back focus/focal length.

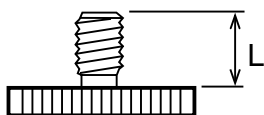
- ② AUTO IRIS select switch

Switch to VIDEO when using a VS-servo lens. Switch to DC when using a DC-servo lens.

NOTE: The camera mounting plate for the CC3300-2 is on top. The mounting plate for the CC3300-2X, -3 is on the bottom.

- ③ The camera mounting

plate can be attached to either the top or bottom of the camera using the four attached screws. Use the mounting plate screw hole to fix the camera to a mounting bracket. The screw must be of the following type. 1/4 in. UNC (20 pitch) Length = 4.5 mm \pm 0.2 mm (ISO standard) or 0.197 in. (ASA standard).



- ④ Lens connector (4-pin socket)

When using an auto iris lens, plug the lens into this socket. The lens cable plug will have to be replaced with the plug supplied, before insertion.

- ⑤ Back focus LOCK screw

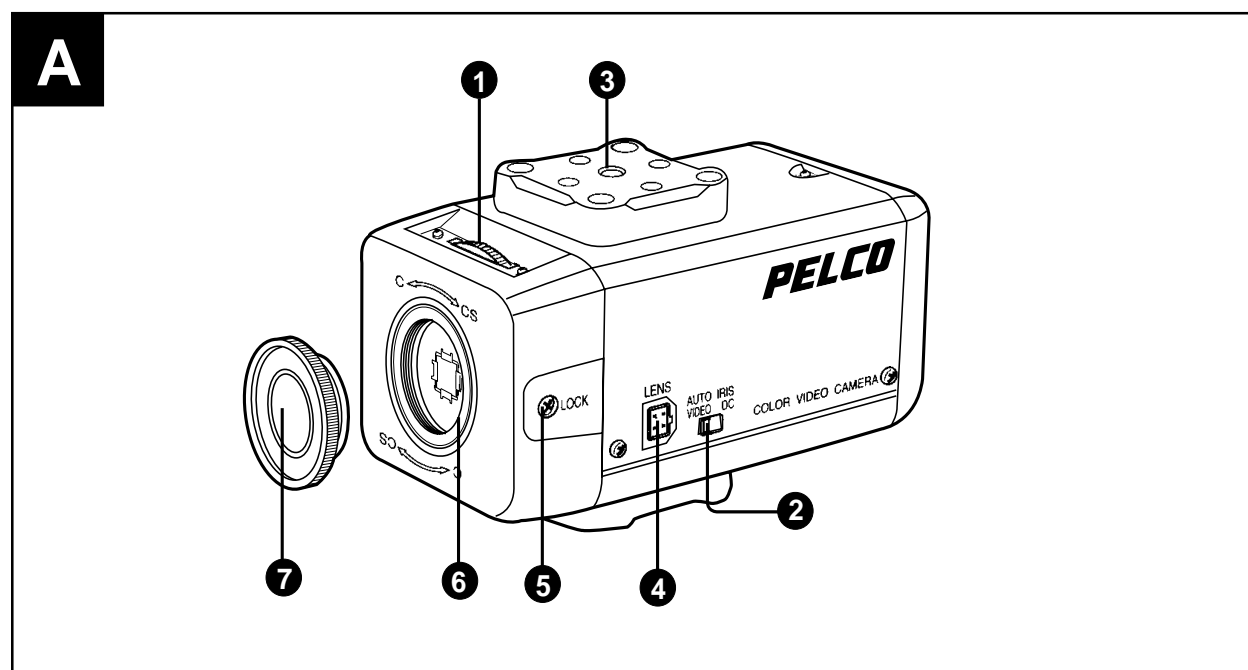
After adjusting the C/CS adjustment ring ① to match the type of lens you are using, turn this screw with a screwdriver to lock the back focus.

- ⑥ LENS mount (C- or CS-mount)

Use to mount an appropriate C-mount or a CS-mount lens. To attach a C-mount/CS-mount lens, turn the focal length adjustment ring to the appropriate position.

- ⑦ Lens mount cap

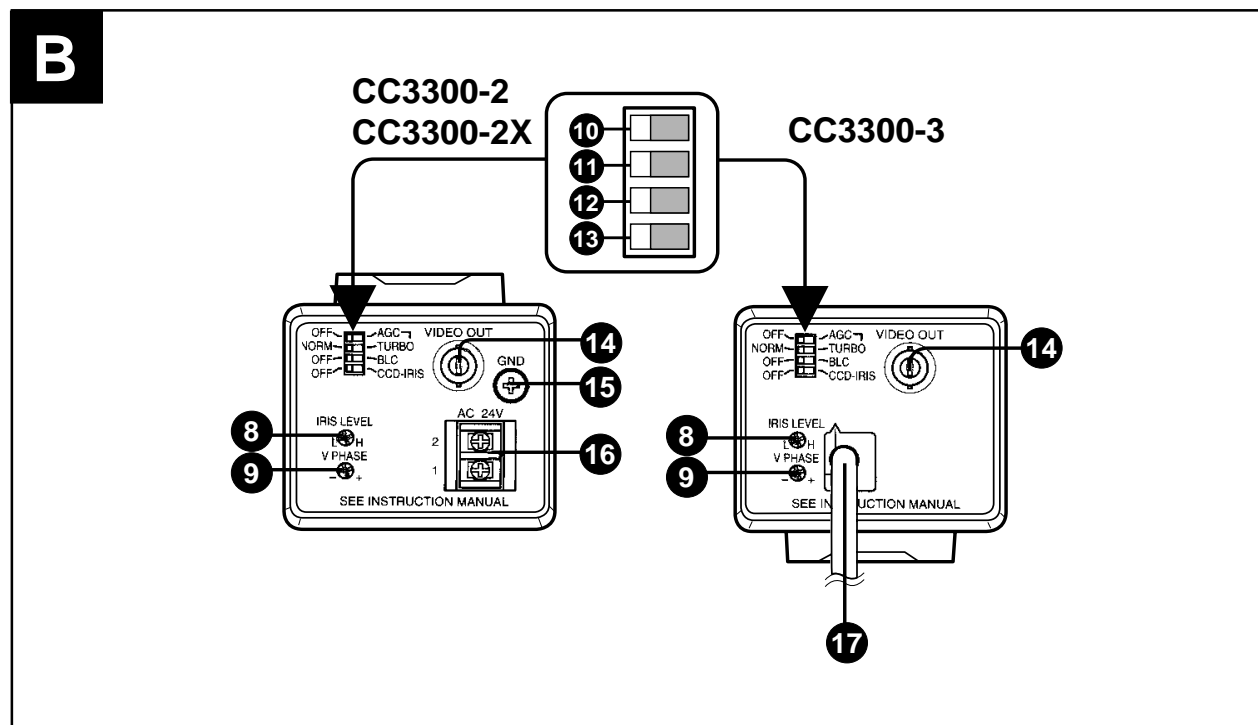
Keep in place whenever the lens is not attached to the camera.



Top/Front/Side View of CC3300 Series Camera

2.1.2 Rear (Illustration **B**)

- 8** IRIS LEVEL L/H adjustment pot
This pot can be used to adjust the incident light level when using the CCD iris or a DC servo lens. Before leaving the factory, the level is set for the CCD IRIS. If you wish to use a DC servo lens, turn the adjustment screw towards the H (high) side.
- 9** V PHASE (vertical phase) \pm adjustment pot
Use this pot to compensate for vertical phase discrepancies which can occur when multiple cameras are connected to a switching device. Each camera's output is synchronized to the frequency of the power supply.
- 10** AGC (automatic gain control) ON/OFF switch
When the AGC is switched on, the signal sensitivity automatically adjusts to the lighting conditions of the subject. The switch normally remains in the AGC position.
- 11** Turbo-AGC TURBO/NORM switch
When switched to TURBO, the Turbo-AGC function gives you a brighter picture under poor lighting conditions. Although noise increases slightly, signal elements are nearly doubled, thereby increasing picture definition. Switching this function on also activates the AGC function.
- 12** BLC compensation ON/OFF switch
Set the BLC (backlight compensation) switch to BLC to compensate for scenes with a strong back light. The BLC function senses the strength of the back light and compensates accordingly. Switching this function on also activates the AGC function.
- 13** CCD IRIS ON/OFF switch
When switched on (switched to CCD IRIS) this function automatically adjusts the sensitivity in accordance with the incident light conditions. Set this switch to OFF when using an auto-iris lens. The factory setting is CCD IRIS.
- 14** VIDEO OUT connector
This coaxial connector (BNC-type) outputs the video signals.
- 15** GND (ground) terminal (CC3300-2, -2X only)
Connect this terminal to ground.
- 16** 24 VAC 1 and 2 terminals (CC3300-2, -2X only)
Connect these terminals to a 24 VAC, 50/60 Hz power supply.
- 17** Main Power Cable lead (CC3300-3 only)
Connect to a 220-240 VAC, 50 Hz power supply.



Rear View of CC3300 Series Cameras

3.0 POWER SUPPLY CONSIDERATIONS

Use only the recommended power supplies. Improper substitutions may damage the camera or cause a shock or fire hazard.

CC3300-2/CC3300-2X

- The CC3300-2 must always be operated with a 24 VAC, Class 2 (60 Hz) power supply, while the CC3300-2X must use a 24 VAC (50 Hz) power supply. Neither power supply is provided. A wall transformer (as depicted in Figure 2) is an example of a common power source.
- In the USA, use a power supply which is UL Listed. In Canada, use a power supply which is CSA Certified.
- When connecting to the transformer, be sure to carefully connect each lead to the appropriate terminal. Wrong connections may cause malfunction and/or damage to video camera.
- Ground the unit or an irregular voltage may be generated in the AC power cord and may cause malfunction or damage to the video camera.
- 24 VAC Cameras: Do not exceed 24 VAC input. Normal input voltage is 24 VAC (50/60 Hz).

The power runs for user-supplied wiring from a 24 VAC supply to a CC3300-2/CC3300-2X camera should be within the following limits:

Up to 200 ft (60 m) – 18 AWG (1 mm²) or larger.

Up to 325 ft (100 m) – 16 AWG (1.5 mm²) or larger



Do not mistakenly attach the GND terminal on 24 VAC cameras to either of the power terminal inputs. Be sure to use the grounding lug or screw.

CC3300-3

- The CC3300-3 must be always operated with a 220-240 VAC, (50 Hz) power supply.

NOTE: The CC3300-3 is supplied with an attached main power cable cord. See illustration **B** and Figure 4 legend for power connections.

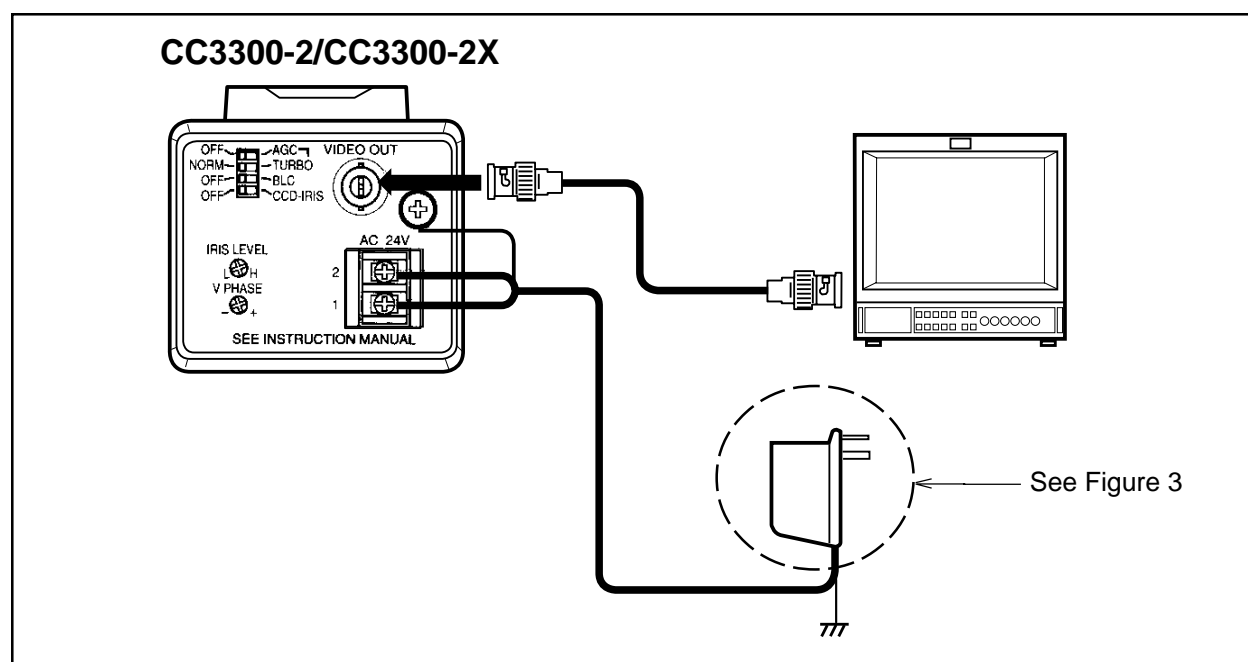


Figure 2. Rear Panel: CC3300-2/CC3300-2X

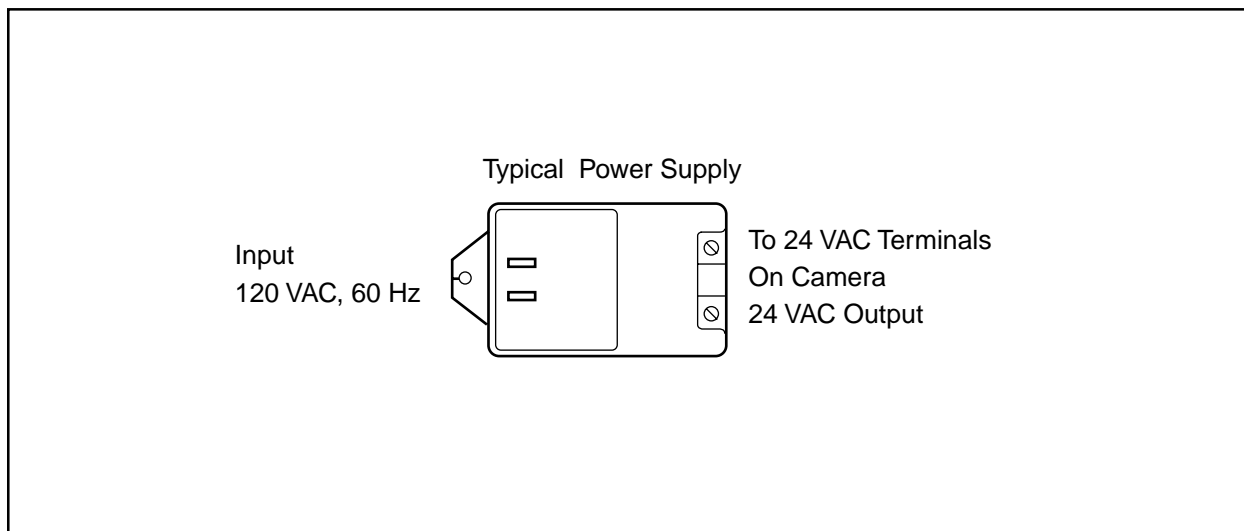


Figure 3. Typical 120 VAC to 24 VAC (60 Hz) Power Supply (CC3300-2 Only)

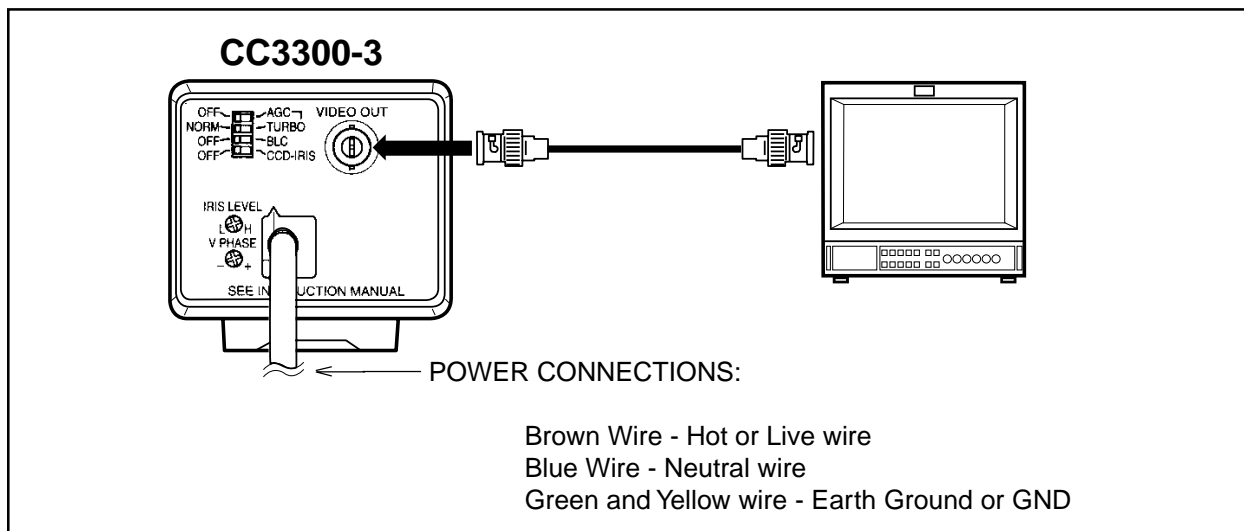


Figure 4. Rear Panel: CC3300-3

NOTE: Cameras with 220-240 VAC power cords are double insulated. Article 250-45 of the National Electrical Code states that listed products protected by a system of double insulation shall not be required to be grounded.

4.0 LENSES

4.1 LENS LIMITS

Lenses exceeding the dimensions shown in Figure 5 below cannot be used.

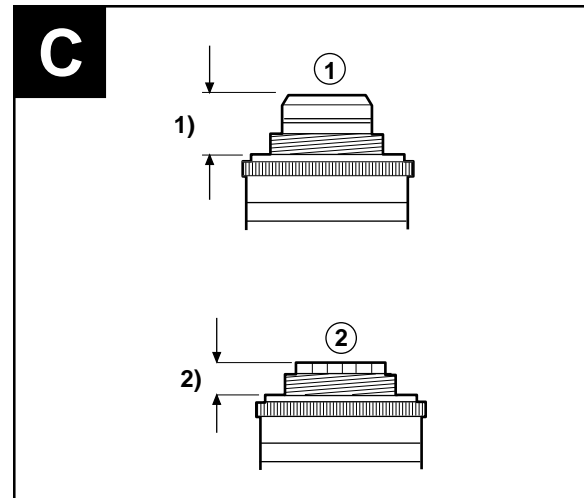
When the lens is not mounted on the camera head, be sure to install the dust cap to protect the internal parts from dust or damage.

4.2 LENS COMPATIBILITY (Illustration **C**)

The lens must be either a C- or a CS-mount type weighing less than 2.2 lb (1 kg). The protrusion behind the mounting surface must be within the following limits:

① C-mount lens	1) 3/8 in. (9 mm) or less
② CS-mount lens	2) 5/32 in. (4 mm) or less

NOTE: Lenses that are suitable for a 1/3-inch CCD should be used with this camera using C- or CS-type lens mounts. Pelco 1/3-inch format lenses are recommended for optimum performance. The use of other lenses may impair camera performance. When lenses for a 2/3-inch or 1/2-inch CCD are used, the viewing angle will be slightly different.



Compatible Lenses

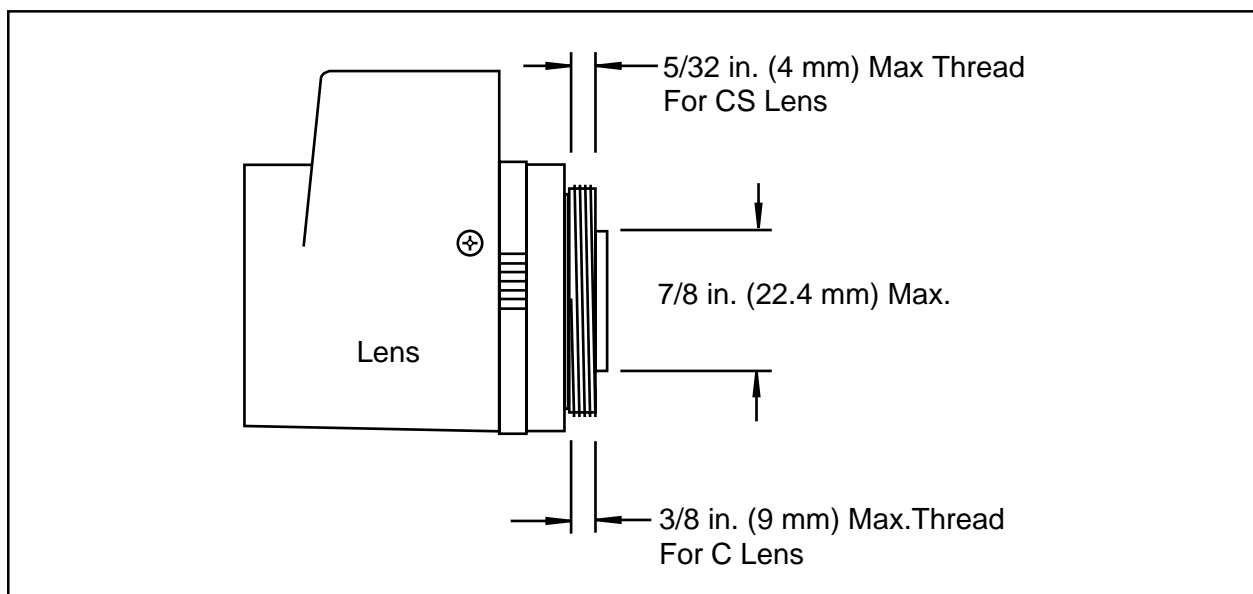


Figure 5. Standard Acceptable Lens Dimensions

4.3 LENS INSTALLATION

4.3.1 Auto Iris

Install an auto-iris lens as follows:
(Refer to Illustration **E**)

1. Unscrew lens mount cap.
2. Screw in the lens.

NOTE: When attaching a C-mount type lens, be sure to turn the C/CS adjustment ring fully in the “C” direction. When the C/CS adjustment ring is set to “CS,” mounting any lens with a mount projection of more than 5/32 in. (4 mm) may damage the internal parts of the camera.

3. Check the plug wiring on the lens cable against Illustration **D** and the pin-outs in step 2 of Section 4.3.2. If you need to replace the existing plug on the lens cable, follow the instructions given in Section 4.3.2.
4. Loosen the back focus LOCK screw. Adjust the back focus by turning the C/CS adjustment ring in accordance with the type of lens fitted (C-mount or CS-mount). Once adjusted, tighten the back focus LOCK screw. (The factory setting is C-mount.)

For amplified or in-depth back focus adjustment instructions, see the Information Boxes on pages 13 and 14. General Information, if needed, is provided on page 12.

4.3.2 Replacing the Auto Iris Lens Cable Plug (Refer to Illustration **D**)

1. Remove the old lens plug from the cable.

NOTE: Refer to the lens manual to determine the cable color code.

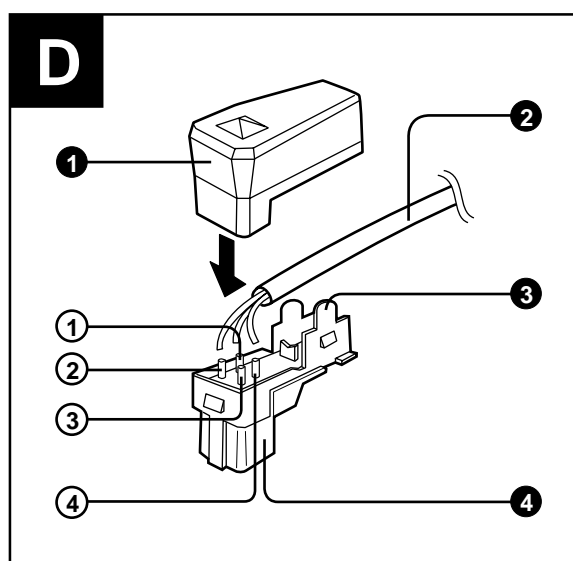
2. Remove the plug cover **1**, add heat shrink tubing to the wires, and solder the lens cable **2** to the pins **1** thru **4** on the plug supplied. The pin assignments are as follows:

Pin #	DC-Servo Lens	VS-Servo Lens
1 Pin 3:	Drive (+)	Video signal
2 Pin 1:	Control (-)	Power supply (9 VDC 50 mA)
3 Pin 2:	Control (+)	Not used
4 Pin 4:	Drive (-)	Ground

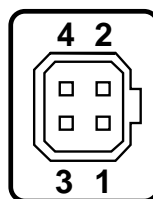
3. Apply heat to the heat shrink tubing.
4. Put the cover on the plug.

ILLUSTRATION **D** ELEMENTS

- 1** Cover
- 2** Auto-iris cable
- 3** Rib (If the cable is thick and the plug cover does not seat properly, cut away this rib.)
- 4** Lens plug



Changing the Plug on an Auto-Iris Lens Cable

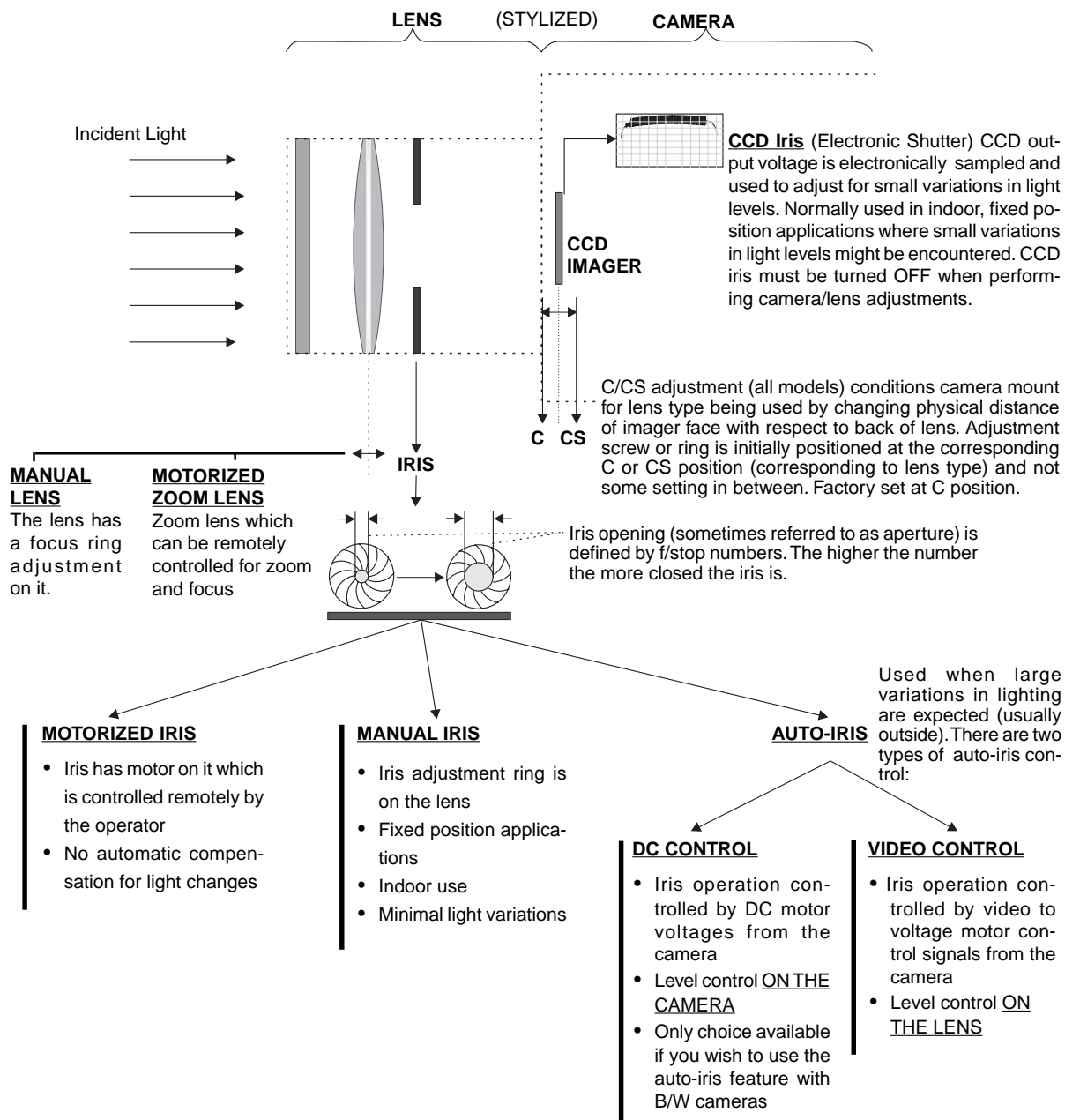


Auto-Iris Plug
Pin-out (Back of Plug)

4.3.3 Manual Iris

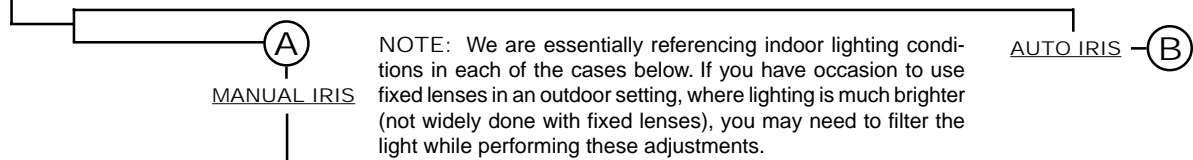
Follow the instructions in Section 4.3.1, but ignore all instructions for changing the lens cable plug.

CAMERA/LENS GEOMETRY-GENERAL INFORMATION



The purpose of backfocusing is to make the adjustments necessary for the picture to remain in focus throughout the camera's zoom range, which is the case for instance, in motorized zoom, auto-iris configurations. Manual iris lens/camera combinations also need to be backfocused. Follow the general instructions listed below to adjust back focus appropriate to your camera/lens combination.

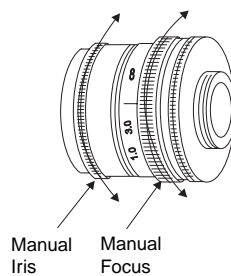
LENS TYPE



VARIABLE LIGHT CONDITIONS

- Turn manual iris ring so iris is fully open and set the focus ring for ∞ (or distant object).

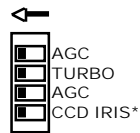
Generic Lens with Manual Iris and Focus



STATIC LIGHT CONDITIONS

- Adjust back focus the same as was done for variable light conditions except CCD Iris is left in the OFF position; therefore there is no need to adjust the Iris Level control; follow all other steps, however.

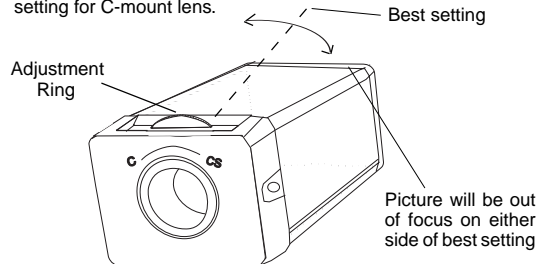
- Set all other switches on the back of the camera to the left (deactivated or OFF), including the CCD Iris switch.



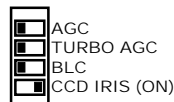
* With CCD Iris OFF, the Iris Level control is inactive

- Adjust the C/CS adjustment ring for the best picture.

Generic example of best setting for C-mount lens.



- Move CCD Iris switch to the ON position.



- Set the Iris Level control pot to the H position.
- Adjust or set other camera switches as needed.

IRIS LEVEL



Backfocusing

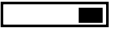
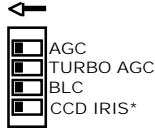
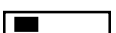
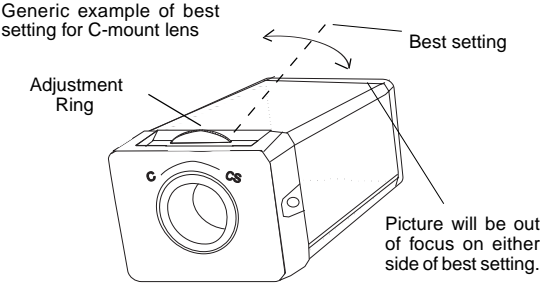

Information Box

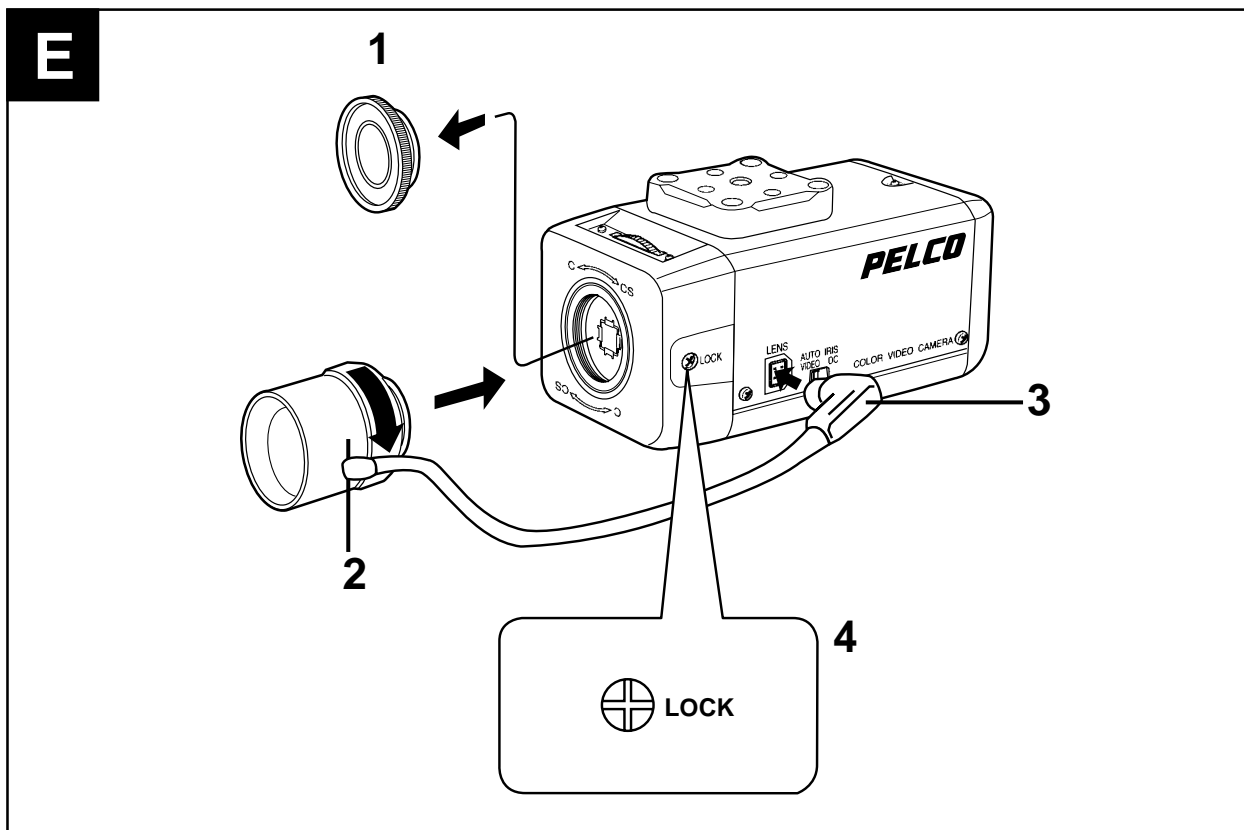
Lens/Camera Setup and Backfocusing

Information Box

The purpose of backfocusing is to make the adjustments necessary for the picture to remain in focus throughout the camera's zoom range, which is the case, for instance, in motorized zoom, auto iris configurations. Manual iris lens/camera combinations also need to be back focused. Follow the general instructions listed below to adjust back focus appropriate to your camera/lens combination.

LENS TYPE

<p>(B) <u>AUTO IRIS</u></p> <p><u>DC SERVO</u></p> <ul style="list-style-type: none"> Make sure the Auto Iris Video/DC switch is in the DC position. Use a neutral density filter or some other physical means to decrease the amount of light entering the camera lens so that the auto-iris response is to open the iris up as wide as possible. 	<p>(A) <u>MANUAL IRIS</u></p> <p><u>VIDEO SERVO</u></p> <ul style="list-style-type: none"> This step is the same as the one for DC SERVO, except that the AUTO IRIS VIDEO/DC switch is set to VIDEO.
<p>AUTO IRIS VIDEO DC</p>  <p>Set all other switches on the back of the camera to the left (deactivated or OFF), including the CCD Iris switch.</p>  <p>* With CCD Iris OFF, the Iris Level control is inactive.</p>	<p>AUTO IRIS VIDEO DC</p>  <p>This step is the same as for DC servo.</p>
<p>BACKFOCUS ADJUSTMENT</p> <ul style="list-style-type: none"> Adjust focus to far, zoom to wide angle. Adjust <u>C/CS adjustment ring on the camera</u> for the best picture. Zoom to a close object; adjust lens controller or focus for best picture. Repeat above until lens remains in focus throughout the zoom range (far to near). Tighten the lock screw. <p>Generic example of best setting for C-mount lens</p> 	<ul style="list-style-type: none"> This step is the same as for DC servo.
<p>The ability of a zoom lens to remain in focus throughout its zoom range is known as tracking.</p> <ul style="list-style-type: none"> Finally, use the IRIS LEVEL adjustment to adjust for best picture. Adjust other settings on camera as needed. 	<p>IRIS LEVEL</p>  <ul style="list-style-type: none"> For AUTO-IRIS applications using VIDEO servo, set the IRIS LEVEL control pot to the H position.



Fitting the Lens

5.0 CAMERA INSTALLATION

ATTENTION: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or equivalent/applicable local codes.



CAUTION: CABLE ROUTING. Be sure cable wires are routed so as to not pinch or rub when connected to pan/tilt units. Frayed, pinched or broken wires can cause fire/shock hazards or system failure.

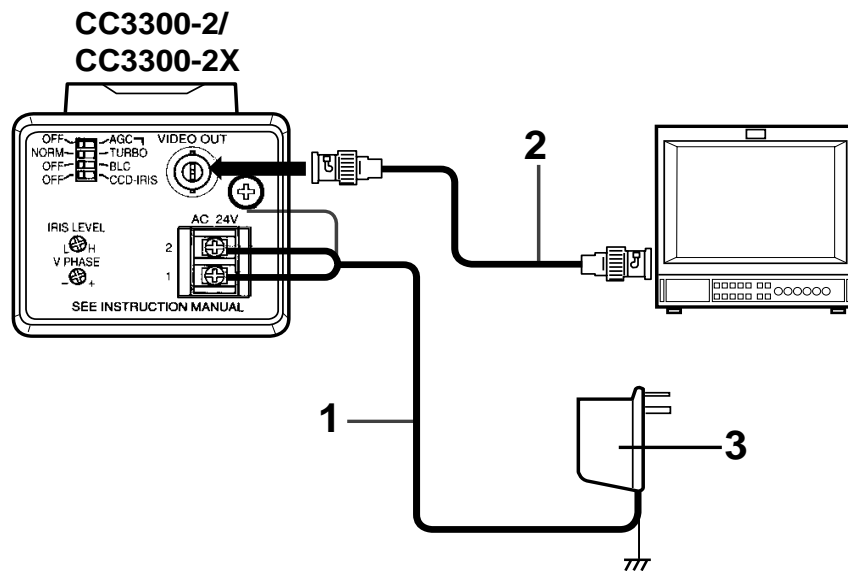
5.1 CONNECTING THE CC3300-2/ CC3300-2X (Illustration **F**)

1. Connect the power lines to the camera.
CC3300-2: 24 VAC, 60 Hz
CC3300-2X: 24 VAC, 50 Hz
2. Connect the 75-ohm coaxial cable to the video monitor.
3. Connect the wall outlet transformer.

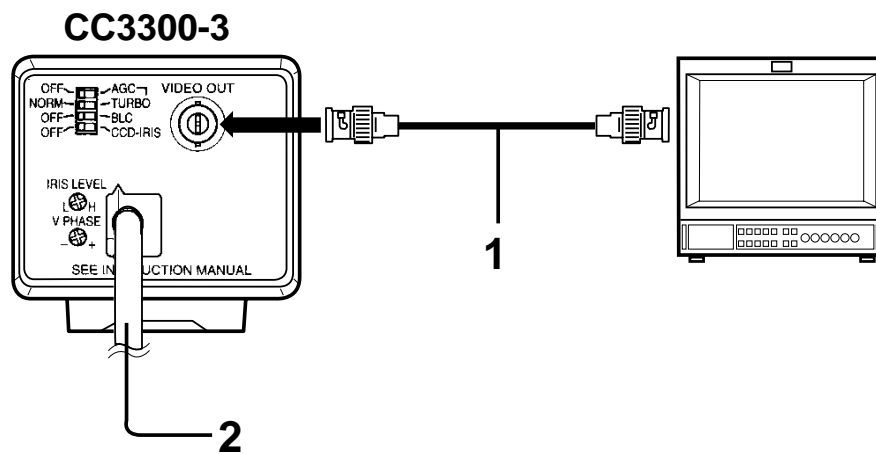
NOTES: When using a transformer without a ground lead (two-lead type), connect the output of the transformer to the 24 VAC terminals (1 and 2) of the camera.

When using a transformer with a ground lead (three-lead type), connect the ground lead to the GND terminal and the other two leads to the 24 VAC terminals (1 and 2).

To prevent a short circuit, do not let the exposed transformer leads brush against conductive material when connecting to the 24 VAC terminals.

F

Connecting the CC3300-2/CC3300-2X

G

Connecting the CC3300-3

5.2 CONNECTING THE CC3300-3 (Illustration **G**)

1. Connect the 75-ohm coaxial cable to the video monitor.
2. Connect the main leads/power cord (220-240 VAC, 50 Hz only).

5.3 VERTICAL PHASE (See Figure 6)

Vertical phase adjustment is not vertical roll adjustment. Each camera is adjusted to the AC zero crossover point at the factory. Problems arise, however, (especially in larger systems) when:

1. Switching rapidly between widely separated cameras with manual or sequential switchers.
2. Switching between cameras not operating off the same phase of the AC line.
3. Both of the above. There are other causes too (transformers wired backward, for instance) but the basic symptoms described below require V-phase adjustment.

In such cases, camera switching may produce what appears to be a vertical roll on the monitor between the two views. Turning the V Phase pot (while switching rapidly as possible between the two camera views) will adjust the relative phase angle between the two cameras and the point at which one camera synchronizes to the AC line with respect to the other. Adjust the pot until the switching is clean and there is no vertical roll or flip.

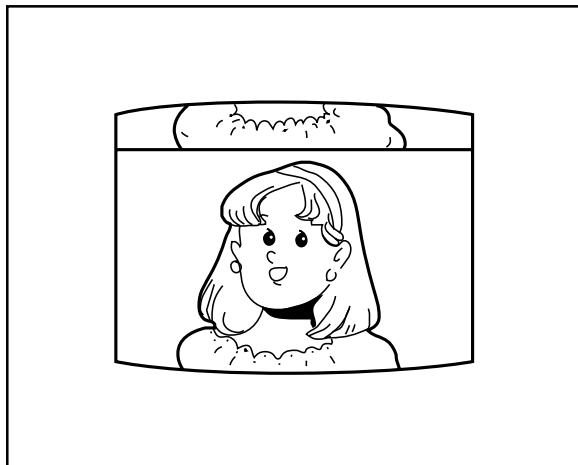


Figure 6. Vertical Phase

6.0 OPERATION

The following are characteristics that may be observed when viewing an image produced by a CCD camera. These are inherent characteristics of the CCD camera and do not stem from any fault within the camera itself.

Vertical smear - This phenomenon occurs when viewing a very bright object.

Patterned noise - This is a fixed pattern which may appear over the entire monitor screen when the camera is operated at a high temperature.

Jagged picture - When viewing stripes, straight lines or similar patterns, the image on the screen may appear jagged.

Avoid operating or storing the unit in the following locations:

- Extremely hot or cold places (operating temperature – 14° to 122°F [-10° to 50°C])
- Damp or dusty places
- Exposed to rain
- Exposed to strong vibration
- Close to generators of strong electromagnetic radiation such as radio or TV transmitters
- Exposed to fluorescent light reflections or unstable (flickering) lighting conditions



CAUTION: The camera should not be pointed at the sun, or used for shooting very bright objects, as the CCD imager may be permanently damaged.

7.0 MAINTENANCE

- Remove dust or dirt on the surface of the lens or CCD with a blower.
- Use a soft, dry cloth to clean the body. If it is very dirty, use a cloth dampened with a small quantity of a neutral detergent, then wipe dry.
- Avoid using volatile solvents such as thinner, alcohol, benzene, and insecticides. They may damage the surface finish and/or otherwise impair the operation of the camera.

8.0 SPECIFICATIONS

Image Device: 1/3-inch Interline transfer type CCD

Sensing Area: 1/3-inch format (3.3 x 4.4 mm)

Effective Picture
Elements:

CC3300-2: 510 H x 492 V

CC3300-2X: 500 H x 582 V

CC3300-3: 500 H x 582 V

Horizontal
Resolution: 330 TV lines

Minimum
Illumination: 1.0 lux at f/1.2 (Turbo AGC on)

CCD Iris:
CC3300-2: 1/60 to 1/100,000 second
CC3300-2X: 1/50 to 1/100,000 second
CC3300-3: 1/50 to 1/100,000 second

CCD Iris Control: ON/OFF switchable

Lens Type: VIDEO/DC servo switchable

Power Requirements:
CC3300-2: 24 VAC, 60 Hz
CC3300-2X: 24 VAC, 50 Hz
CC3300-3: 220-240 VAC, 50 Hz

Power Consumption:
CC3300-2: 3.5 W
CC3300-2X: 3.5 W
CC3300-3: 4 W

Sync System:
CC3300-2: AC line lock 60 Hz
CC3300-2X: AC line lock 50 Hz
CC3300-3: AC line lock 50 Hz

AGC: ON/OFF/Turbo switchable

Signal System:
CC3300-2: NTSC color system
CC3300-2X: PAL color system
CC3300-3: PAL color system

White Balance: ATW only

Video Signal: 1.0 volt peak to peak at 75 ohms, sync negative

S/N Ratio: 46 dB (AGC off)

Phase Control: V-phase adjustment ($\pm 90^\circ$)

Lens Mount: C/CS mount (adjustable)

Dimensions: 5.50 in. L x 2.75 in. W x 2.56 in. H
(13.97 x 6.99 x 6.51 cm)

Mounting Plate
Height: 0.25 inches (6.15 mm)

Weight:
CC3300-2: 1.1 lb (.50 kg)
CC300-2X: 1.1 lb (.50 kg)
CC3300-3: 1.4 lb (.64 kg)

Construction: Steel case

Finish: Neutral gray

Operating
Temperature: 14° to 122°F (-10° to 50°C)

Storage
Temperature: -40°F to 140°F (-40° to 60°C)

Relative Operating
Humidity: 20 to 80% (non condensing)

Relative Storage
Humidity: 20 to 95%

Shock
Resistance: 70 G

Auto-Iris Lens
Connector: 4-pin

(Design and product specifications subject to change without notice.)

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years on FT/FR8000 Series fiber optic products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra®, Esprit®, ExSite™, and PS20 scanners, including when used in continuous motion applications.
- Two years on Esprit® and WW5700 Series window wiper (excluding wiper blades).
- Eighteen months on DX Series digital video recorders, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico, send goods to:

Service Department
Pelco
3500 Pelco Way
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

REVISION HISTORY

Manual #	Date	Comments
C1900M	11/96	Original version.
	4/99	Added model CC3300-2X.